REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-8 are pending. Claims 1 and 6-8, which are independent, are hereby amended. Support for this amendment is provided throughout the Specification as originally filed, and specifically at page 6 (line 25) to page 7 (line 10) and Figures 1-2.

No new matter has been introduced by this amendment. Changes to the claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicant is entitled.

II. OBVIOUSNESS-TYPE DOUBLE PATENTING REJECTIONS

Claims 1-8 were rejected on the ground of non-statutory obviousness-type double patenting as allegedly unpatentable over the claims of U.S. Patent No. 6,901,010 to Iwahashi et al. in view of U.S. Patent No. 5,778,342 to Erell et al. (hereinafter, merely "Erell").

Applicant respectfully submits that the Terminal Disclaimer being filed with this Amendment obviates these obviousness-type double-patenting rejections.

III.   REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 1-8 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over

U.S. Patent No. 6,188,982 to Chiang (hereinafter, merely "Chiang") in view of Erell.

As understood by Applicant, Chiang relates to a system for adaptively generating

a composite noisy speech model to process speech in, e.g., a non-stationary environment, which

comprises a speech recognizer, a re-estimation circuit, a combiner circuit, a classifier circuit, and

a discrimination circuit. In particular, the speech recognizer generates frames of current input

utterances based on received speech data and determines which of the generated frames are

aligned with noisy states to produce a current noise model. The re-estimation circuit re-estimates

the produced current noise model by interpolating the number of frames in the current noise

model with parameters from a previous noise model. The combiner circuit combines the

parameters of the current noise model with model parameters of a corresponding current clean

speech model to generate model parameters of a composite noisy speech model. The classifier

circuit determines a discrimination function by generating a weighted PMC HMM model. The

discrimination learning circuit determines a distance function by measuring the degree of mis-

recognition based on the discrimination function, determines a loss function based on the

distance function, which is approximately equal to the distance function, determines a risk

function representing the mean value of the loss function, and generates a current discriminative

noise model based in part on the risk function, such that the input utterances correspond more

accurately with the predetermined model parameters of the composite noisy speech model.

As understood by Applicant, Erell relates to a pattern recognition system and

method that includes the steps of a) providing a noisy test feature set of the input signal, a

plurality of reference feature sets of reference templates produced in a quiet environment, and a

background noise feature set of background noise present in the input signal, b) producing

adapted reference templates from the test feature set, the background noise feature set and the

reference feature sets and c) determining match scores defining the match between each of the

adapted reference templates and the test feature set. The method can also include adapting the

scores before accepting a score as the result. The system and method are described for both

Hidden Markov Model (HMM) and Dynamic Time Warping (DTW) scoring units. The system

performs the steps of the method.

Applicant respectfully submits that the present claims are patentable over the

cited references for at least the following reasons.

A.   Cited references fail to meet all claim limitations

Claim 1 recites, *inter alia*:

"… **activation means for indicating a beginning of speech** …"
(Emphasis added)

Applicant respectfully submits that nothing has been found in Chiang or Erell that

would teach or suggest the above-identified feature of claim 1. Specifically, neither Chiang nor

Erell, taken alone or in combination, teach or suggest <u>activation means for indicating a beginning</u>

<u>of speech</u>, as recited in claim 1.

That is, Chiang and Erell do not teach or suggest a "press-to-talk switch" 4 as

described on pages 6-7 of the Specification and Figures 1-2 of the Drawings. As taught in the

Specification on pages 6-7, "the press-to-talk switch 4 is turned to its ON position by the user

himself, at the time when he intends to start speaking. Therefore, the spoken voice is not

included in the voice data of the noise observation section Tn, which precedes the instant tb at

which the press-to-talk switch 4 has been turned to the ON position, and only the environment noise exists."

B.   Office Action has failed to establish a *prima facie* case for obviousness

None of the cited references, either alone or in combination, teach, suggest or motivate a skilled artisan to practice the instant invention. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or to combine reference teachings either in the references themselves or in the general knowledge available to one of ordinary skill in the art; second, there must be a reasonable expectation of success; third, the prior art reference or references must teach or suggest all the claim limitations. M.PE.P. § 2143. It is, however, impermissible for the Office Action to use hindsight based on an Applicant's disclosure to determine that an Applicant's claimed invention is obvious in view if the cited art. M.P.E.P. § 2142. The motivation or teaching to make the claimed combination by modifying or combining prior art references must be found in the prior art and not in the Applicant's disclosure. *In re Vaeck*, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Applicant submits that the references cited by, and combined by, the Office Action actually teach away from the instant invention. The Office Action has countered that the cited references do not teach away from their combination and that Erell provides a motivation to combine the reference teachings. However, in coming to this conclusion, it is respectfully submitted that the Office Action has ignored the first two elements of substantiating a rejection under 35 U.S.C. § 103(a), namely (1) "to provide some suggestion of the **desirability** of doing what the inventor has done," and (2) demonstrating that "there must be a reasonable **expectation**

of success." MPEP § 706.02(j) (emphasis added). Because of these deficiencies in the rejection,

Applicant respectfully requests the withdrawal of the §103 rejections.

Claim 1 recites, *inter alia*:

"… generating means for generating said model that corresponds to such a state that said data do not exist, **on the basis of the noise that has been input at the time just preceding the inputting of said data**, and for updating that which is corresponding to it and is stored in said storing means."
(Emphasis added.)

The Office Action has admitted that, "Chiang does not disclose extracting noise

from input just preceding the input of speech data." The Office Action then suggests that,

because Erell does allegedly contain such a teaching, it would have been obvious to one of skill

in the art to combine the teachings of Chiang and Erell. The Office Action further argues that

Erell provides a motivation to combine Chiang with Erell. It is respectfully submitted that such a

combination would not have been obvious to one of skill in the art.

Indeed, Chiang expressly teaches away from the suggested combination. Column

4, lines 2-5 of Chiang state that "[t]he **advantages** of this on-line PMC method over the

conventional PMC method lies mainly in its **avoidance of the need to collect the background**

noise in advance." Thus, in this single sentence, Chiang teaches that it would be **undesirable** to

have to collect background noise **in advance** of other pattern recognizing steps, as recited in the

claims of the instant application.

Chiang further states:

[a]s is evident in actual applications, noise changes with time so that the conventional PMC method cannot be used to process speech in a nonstationary environment. This is true since there can be a significant difference between the background noise previously colleted and the background noise in the actual environment. For this reason, the **conventional PMC is inadequate** for processing noises in a nonstationary state.

(Chiang, col. 3, lines 53-60, emphasis added.)

Accordingly, Chiang teaches that convention PMC, which requires collecting background noise in advance, to recognize data patterns, is inferior and should not be used and that the teachings of Chiang provide superior means for achieving noise processing, or that **there would not be a reasonable expectation of success**. Because of this stated inferiority, one of skill in the art reading Chiang would not, contrary to the Office Action's assertion, look to combine the teachings of Chiang with a system of noise sampling, prior to transmission.

Accordingly, because the two of the "basic criteria" of obviousness have not been, and cannot be established, the Office Action has failed to present a *prima facie* case of obviousness. Further, it is respectfully submitted that because Chiang specifically teaches away from the combination applied by the Office Action, such a combination cannot be the basis of a rejection under 35 U.S.C § 103(a).

Therefore, for at least these reasons, independent claim 1 is patentable.

Independent claims 6-8 are similar, or somewhat similar, in scope and are therefore patentable for similar, or somewhat similar, reasons.

IV.   **DEPENDENT CLAIMS**

The other claims in this application are each dependent from one of the independent claims discussed above and are therefore patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION

In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited references, it is respectfully requested that the Examiner specifically indicate those portions of the references providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

Applicant respectfully submits that all of the claims are in condition for allowance and requests early passage to issue of the present application.

Respectfully submitted,

FROMMER LAWRENCE & HAUG LLP
Attorneys for Applicant

By

Thomas F. Presson
Reg. No. 41,442
(212) 588-0800